

## VPDES PERMIT PROGRAM FACT SHEET

This document gives pertinent information concerning the VPDES permit listed below. This permit is being processed as a Minor, industrial permit. The wastewater discharges result from treated stormwater discharges associated with industrial activity that result from the operation of a railroad switching yard, locomotive fueling area and car repair shop. The permit process consists of limiting pH, total suspended solids, oil and grease and acute whole effluent toxicity. The permit also includes other requirements and special conditions to ensure compliance with the State Water Quality Standards.

1. Facility Name and Address: SIC Code: 4013

Norfolk Southern Railway Company  
Andover Yard  
4300 Fleming Road  
Appalachia, VA 24216  
See **Attachment A** – Location Map

2. Permit No: VA0022012 Expiration Date: May 11, 2016

3. Owner Contact:

D.F. Julian, Vice President Safety and Environmental  
Norfolk Southern Railway Company  
1200 Peachtree Street, NE, Box 13  
Atlanta, GA 30309  
Telephone No.: (404) 582-4239

Facility Contact:

Troy Carpenter, Regional Manager Environmental Operations  
209 Shenandoah Avenue, NE, Box 13  
Roanoke, VA 24016

Telephone No.: (404) 520-2461

4. Application Processing:

Application Complete Date: November 12, 2015  
DEQ Regional Office: Southwest Regional Office  
Permit Drafted By: David Nishida

\_\_\_\_\_ Date: March 2, 2016

Reviewed by: \_\_\_\_\_

Date: \_\_\_\_\_

5. Receiving Waters Classifications:

Receiving Stream: Callahan Creek  
Basin: Tennessee – Big Sandy River  
Subbasin: Clinch River  
Section: 1  
Class: IV  
Special Standards: none

6. Licensed Operator Requirements:

No licensed operator will be required.

7. Reliability Class: NA

8. Permit Characterization:

( X ) Private  
( ) Federal  
( ) State  
( ) POTW  
( ) Possible Interstate Effect  
( ) Interim Limits in Other Document (attach to Fact Sheet)

9. Facility Description:

The Norfolk Southern Andover Yard is a railroad facility serving the Norfolk Southern Railway Company. The operations had previously been identified as the Interstate Railroad Company. The facility is used for locomotive servicing and direct-to-locomotive refueling as well as storage and switching of railroad cars. The discharges from the facility result from surface water runoff from the yard, and from the areas surrounding the fueling and servicing areas. A schematic diagram of the site is included as **Attachment B**.

The refueling operations at the facility previously utilized an onsite diesel fuel storage tank which was refilled from railroad tank cars at a side track which was specifically designated for offloading of tank cars. Fuel from the storage tank was pumped (app. 800 feet) to the locomotive fueling area on the northeast side of the facility where it was dispensed into the locomotives. The surface water runoff from the tank car unloading area, and the locomotive fueling area was directed into drainage structures which carry the runoff into the waste water treatment system.

However, the fixed facilities were taken out of service and direct to locomotive (DTL) fueling replaced the fixed fueling practices. The DTL fueling is performed by an independent contractor who dispenses fuel to the locomotives from tanker trucks which are driven to the refueling site. The fueling is conducted on a side track adjacent to the car shop where the ballast has been lined with an oil absorbent liner to prevent the escape of any spillage. The fuel trucks are removed from the site when fueling is complete.

Routine locomotive and rail car servicing at the facility is limited to minor repairs to the exteriors of the equipment and lubrication of critical components. No heavy mechanical repairs to the engines or other major mechanical components are performed at the facility, and no wastewater sources are created by the servicing operations.

During a previous reissuance of the permit, the permit was modified to allow the facility to incorporate petroleum contaminated groundwater from corrective action activities to the existing on-site wastewater treatment plant. This change was made to implement a corrective action program through the Virginia petroleum storage tank program, and was initiated to abate free-phase petroleum hydrocarbons (i.e. free product) present in the vicinity of the former locomotive fueling facility at the site. The groundwater treatment and corrective action activities were completed in 2003, and the Department concluded that the contaminant levels had been reduced such that no further corrective action was necessary. The monitoring wells were abandoned and the groundwater extraction ceased. The special conditions and monitoring requirements which were placed in the permit to address the groundwater treatment were removed from the permit during the last permit action.

The application for reissuance has identified the following discharge location from the facility:

- 001: Outfall 001 is the discharge from the treatment system which receives surface water runoff from the current and former locomotive fueling areas, the former tank car unloading area and the area adjacent to the machine shop. Since the last issuance of this permit, modifications to the site included decommissioning Outfall 002 and rerouting that stormwater through the treatment system servicing Outfall 001. Outfall 002 was removed from the permit in 2015.

Discharge Description			
OUTFALL NUMBER	DISCHARGE SOURCE	TREATMENT	FLOW
001	Stormwater Runoff	Sedimentation	0.01 MGD Avg. 0.06 MGD Max.

The water treatment system serving outfall 001 was originally installed in the 1970's to treat storm water runoff from the fueling areas, and was designed to remove solids and reduce petroleum contamination from the discharge water. The system consists of three main structures: 1) an influent grit chamber with bar screen; 2) two separation/sedimentation basins which can be operated in series or parallel, and; 3) an effluent structure with v-notch weir and flow meter. The treatment plant is equipped with a floating oil skimmer in the influent grit chamber and boom mounted skimmer at the separation- sedimentation basin. Oil collected from the skimmers is transferred to a storage tank adjacent to the treatment structure. The waste oil is held within the tank, until removed from the site by a waste oil disposal contractor. This system was repaired/rehabilitated in 2015. Additionally, Outfall 002 was abandoned and stormwater from Outfall 002 was redirected to Outfall 001.

10. Residuals Management:

All solid waste, contaminated oil absorbent booms or pads, or other residuals produced by the wastewater treatment are placed in a covered water tight dumpster-like container until removed from the site by a disposal contractor.

11. Discharge Location:

The Norfolk Southern Railway Company - Andover Yard facility is located in Wise County, in the community of Andover, approximately 1 mile northwest of Appalachia, VA. A location map is included as **Attachment A**.

Name of Topo: Appalachia, VA 7.5' Quadrangle

Latitude: 36° 55' 15"

Longitude: 82° 47' 47"

12. Material Storage:

The facility has taken the locomotive fueling system out of service, and currently performs all fueling operations directly from a tanker truck (“direct-to-locomotive” or DTL fueling). Consequently, the diesel fuel tanks which were previously used for fuel storage are no longer used, and have been closed in accordance with petroleum storage tank regulations.

The facility currently utilizes one 500 gallon storage tank (identified as Tank #9) which is used for kerosene. A 300 gallon storage tank (identified as Tank #12) is used to store used oil. Both tanks have integrated secondary containment. The facility dispenses various petroleum lubricants from a 350 gallon LST. The facility also utilizes a sand silo to store and dispense sand which is used for sanding of the tracks. This unit has a capacity of 75 tons. All material storage facilities are within the watershed area which is served by the wastewater treatment system, and any potential storm water contamination from the material storage areas would be controlled by the treatment system.

13. Receiving Waters Information:

The wastewater treatment system at the Andover Yard discharges into Callahan Creek, a tributary of the Powell River at a location approximately 1 mile upstream of its confluence with the Powell River in the town of Appalachia (Basin: Tennessee-Big Sandy; Sub-basin: Clinch River; Section: 1; Class: IV; Special Standards: None). The drainage area of the Callahan Creek watershed above the discharge point is estimated to be approximately 27.4 square miles.

The USGS has operated a continuous record gaging station on the Powell River at Pennington Gap (035310000). Data from this station were utilized to estimate the low-flow characteristics at the discharge location. The resulting estimates of the flows are:

Callahan Creek	
1Q10	0.7 MGD
7Q10	0.8 MGD
30Q5	1.4 MGD
H.M.	6.8 MGD

The segment of Callahan Creek which receives the discharge from this operation is currently contained in the current 303(d) list of impaired waters. See Section 25 of this fact sheet for additional information.

14. Anti-degradation Review:

Tier: 1 ☒ 2 ☐ 3 ☐

The State Water Control Board's Water Quality Standards includes an antidegradation policy (9VAC25-260-30). All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The antidegradation review begins with a Tier determination. Callahan Creek is determined to be a Tier 1 waterbody. Since this segment of the Powell River watershed has been identified as not meeting the water quality standards, the receiving waters are considered to be impaired waters, and the segment is classified as “Tier 1”

waters. Because the permit is meeting the required limitations, which include a whole effluent toxicity limit, the action is considered to comply with the anti-degradation provisions of the regulations.

15. Site Inspection:

Date: March 1, 2016

Performed By: Allen Cornett

A Comprehensive Evaluation Inspection was conducted on March 1, 2016 and no deficiencies were observed.

16. Effluent Screening and Limitation Development:

The facility has monitored the discharge in accordance with the Part I requirements in the VPDES permit and with the requirements of application Form 2F. A review of the monitoring results indicates that the facility has performed the required analyses, and has consistently met the effluent limitations for the discharge.

The proposed effluent limitations and monitoring requirements for the site address the wastewater discharges which result from storm water runoff from the areas served by the treatment system at Outfall 001. The existing permit contains effluent limitations for pH, total suspended solids, oil and grease and whole effluent toxicity. The limits for pH, TSS and oil and grease were based upon the Department's recommended effluent limitations as applied to the railroad industry, and have been effective since 1975. The toxicity limit was imposed effective April 1, 1996 to address toxicity identified in the initial toxicity screening. Benchmark monitoring for total petroleum hydrocarbons was added to the permit in 2011.

The existing effluent limitations and monitoring requirements for pH, TSS, TPH, oil and grease, and whole effluent toxicity are proposed to be continued from the previous permit without change. The effluent limitations and monitoring requirements for Outfall 001 are summarized in the table below:

( ) Interim Limitations  
(X) Final Limitations

Effective Dates:

From: issuance  
To: expiration

PARAMETER	BASIS FOR LIMIT	DISCHARGE LIMITATIONS				MONITORING REQUIREMENT	
		Monthly Average	Weekly Average	Minimum	Maximum	Frequency	Sample Type
FLOW	NA	NL	NA	NA	NL	1/3Months	Estimate
pH	3	NA	NA	6.0	9.0	1/3Months	Grab
TSS	2	30 mg/l	NA	NA	60 mg/l	1/3Months	Grab
Oil and Grease	2	NA	NA	NA	15 mg/l	1/3Months	Grab
Total Petroleum Hydrocarbon	4	NA	NA	NA	NL	1/Year	Grab
Acute Whole Effluent Toxicity	3	NA	NA	NA	1.0 TUa	1/Year	Grab

NA = Not Applicable  
NL = No Limitations

The basis for the limitations codes are:

1. Federal Effluent Requirements
2. Best Engineering Judgment
3. Water Quality Standards
4. Other (model, WQM Plan, etc.)
5. Best Professional Judgment

#### Monitoring Frequency Reduction:

A monitoring frequency reduction to once per quarter was granted during the 2006 permit reissuance. The frequency reduction was based upon consistent compliance with the effluent limitations and other requirements of the permit. The frequency reduction is proposed to be continued during the next permit term; however the permit contains a provision which would require the reinstatement of monthly monitoring should the facility be issued a notice of violation for effluent violations.

#### 17. Anti-Backsliding:

Because all effluent limits are continued unchanged, their re-issuance complies with the anti-backsliding provisions of the regulations.

18. Compliance Schedules:

There are no compliance schedules in effect for the facility

19. Special Conditions:

The draft permit contains the following special conditions:

- a. **Notification Levels:** The permit includes a special condition which requires the permittee to notify the Department if they discharge certain toxic pollutants above established concentrations. (Part I.B.1)

**Rationale:** The regulations (9 VAC 25-31-200) require **all** commercial facilities permitted under the VPDES program to comply with this notification requirement.

- b. **Materials Handling/Storage:** The permit includes a special condition which requires that all product, materials and industrial wastes be handled, disposed of, and/or stored in such a manner so as not to permit a discharge to State waters. (Part I.B.2)

**Rationale:** This Special Condition is continued from the existing permit. 9 VAC 25-31-50 A prohibits the discharge of any wastes into State waters unless authorized by permit. Code of Virginia §62.1-44.16 and 62.1-44.17 authorizes the Board to regulate the discharge of industrial waste or other waste.

- c. **O&M Manual Requirement:** The permit includes a special condition which requires the facility to maintain an Operation and Maintenance manual for the treatment system (Part I.B.3).

**Rationale:** Required by Code of Virginia § 62.1-44.16; VPDES Permit Regulation, 9 VAC 25-31-190 E, and 40 CFR 122.41(e). These require proper operation and maintenance of the permitted facility. Compliance with an approved O&M manual ensures this.

- d. **Additional Monitoring and Reporting Requirements:** The permit includes special conditions which specify additional monitoring and reporting requirements for the Part I.A monitoring parameters (Part I.B.4).

**Rationale:** Authorized by VPDES Permit Regulation, 9 VAC 25-31-190 J 4 and 220 I. This condition is necessary when toxic and conventional pollutants are monitored by the permittee and a maximum level of quantification and/or a specific analytical method is required in order to assess compliance with a permit limit or to compare effluent quality with a numeric criterion. The condition also establishes protocols for calculation of reported values.

- e. **Resumption of Monthly and Quarterly Monitoring:** The permit includes a special condition which requires the facility to resume monthly monitoring should the facility be issued a Warning Letter, a Notice of Violation, or be the subject of an active enforcement action (Part I.B.5).

**Rationale:** The reduction of monitoring is based upon past performance, and the facility is expected to maintain the performance levels that were used as the basis for granting monitoring reductions.

- f. **Total Maximum Daily Load (TMDL) Re-opener:** The permit includes a special condition which allows the permit to be modified if any approved wasteload allocation procedure, pursuant to Section 303(d) of the Clean Water Act, imposes wasteload allocations, limits or conditions on the facility that are not consistent with the requirements of this permit. (Part I.B.6)

**Rationale:** Section 303(d) of the Clean Water Act requires that TMDLs be developed for streams listed as

impaired. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL approved for the receiving stream. The re-opener recognizes that, according to Section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan, or other wasteload allocation prepared under section 303 of the Act.

- g. Whole Effluent Toxicity Monitoring:** The permit includes a special condition which outlines the requirements for the acute whole effluent toxicity limitation required in Part I.A of the permit. (Part I.B.7)

**Rationale:** This special condition is necessary to specify additional requirements which apply to the effluent limitation.

- h. Storm Water Management:** The permit contains special conditions for the management of storm water runoff from the site. (Part I.C)

**Rationale:** Because storm water runoff from the facility is defined in the regulations as “storm water associated with industrial activity” the storm water management conditions are required by 9 VAC 25-31-10.

- i. Conditions Applicable to all VPDES Permits:** The permit contains special conditions and other requirements which apply to all VPDES permits (Part II).

**Rationale:** VPDES Permit Regulation, 9 VAC 25-31-190 requires all VPDES permits to contain or specifically cite the conditions listed.

20. NPDES Permit Rating Worksheet:

The staff has completed the NPDES Permit Rating Worksheet and has determined that the facility does not meet the criteria to be classified as a major source. The completed worksheet is on file at the regional office.  
Total Score: 20

21. Proposed Changes to the Permit:

The following changes to the permit are proposed:

Outfall 002 has been deleted from the permit. In 2015, with DEQ approval, the permittee modified the drainage of the site such that all stormwater that had discharged through Outfall 002 has been redirected to Outfall 001.

The effective date of the permit will be modified to the first of the month following the expiration of the permit. This is occurring as an agency wide effort to have all permit effective dates at the beginning of the month. As such, the effective date of this permit is anticipated to be June 1, 2016.

Part I.B.3 Operations and Maintenance Manual special condition has been updated to reflect changes to the current VPDES Permit Manual.

Part I.C Storm Water Management Conditions has been changed to reflect current storm water permit requirements. Additionally, the requirements to perform stormwater sampling on storm events that occur at least 72 hours from the previously measureable event and within 30 minutes of the initiation of discharge have been removed from the permit since the treatment system provides adequate equalization.

The following portions of Part II were updated to in accordance with current regulation:

- A.1.c. Added VELAP special condition which requires samples to be analyzed in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Laboratories per VPDES Permit Manual IN-1, A.4, page 15, updated 3/27/2014.
- A.2. States that any pollutant specifically addressed by this permit that is sampled or measured at the permit designated or approved location more frequently than required by this permit shall meet the requirements in A 1 a through c of this section of the permit and the results of this monitoring shall be included in the calculations and reporting required by this permit
- A.3. Clarified that operational or process control samples or measurements do not need to follow procedures approved under Title 40 Code of Federal Regulations Part 136 or be analyzed in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.
- I.3. Added language which allows for the Reporting of Non-Compliance activities to be submitted online in addition to reporting them by means of a telephone call.

No other changes are proposed.

22. Variances/Alternate Limits or Conditions:

- A certified operator is not required for the wastewater system.
- Although outfall 001 discharges stormwater runoff, the permit allows for a variance from standard stormwater monitoring procedures that require sampling on storm events that occur at least 72 hours from the previously measureable event and during the first 30 minutes of discharge. The amount of equalization provided by the treatment system sedimentation basins negates the benefit of sampling the “first flush” of the treatment system. Therefore, Grab samples are specified as the sample type contained in Part I.A of the permit.

23. Public Notice:

In accordance with 9 VAC 25-31-290, a public notice will be published once per week for two consecutive weeks in a newspaper of general circulation in the area affected by the discharge. A copy of the public notice and all pertinent information is on file and may be inspected or copied by contacting:

David Nishida ([david.nishida@deq.virginia.gov](mailto:david.nishida@deq.virginia.gov))  
Department of Environmental Quality  
Southwest Regional Office  
355 Deadmore Street  
P.O. Box 1688  
Abingdon, VA 24212-1688

Persons may comment in writing, or by e-mail to the DEQ on the proposed issuance of the permit, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone

number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requester's interests would be directly and adversely affected by the proposed permit action.

Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given.

Public Notice Beginning date: \_\_\_\_\_

Public Notice End date: \_\_\_\_\_

24. Additional Comments:

The Virginia Department of Conservation and Recreation commented on December 21, 2015 the site is within the Preacher Creek Stream Conservation Unit that has a biodiversity ranking of B3. The natural heritage resource associated with the site is the Spiny riversnail (*Io fluvialis*) (G2/S2/SOC/LT). To minimize adverse impacts to the aquatic ecosystem, DCR recommends the implementation of and strict adherence to applicable state and local erosion and sediment control/storm water management laws and regulations. Due to the legal status of the Spiny riversnail, DCR recommends coordination with Virginia's regulatory authority for the management and protection of this species, the DGIF. DCR also recommends the development and implementation of an emergency spill plan for fuel or other pollutants.

DGIF did not request coordination for the reissuance of this permit, therefore, further coordination with DGIF was not conducted.

The Virginia Department of Health commented on November 30, 2015 that there are no public raw water intakes within 15 miles downstream of the discharge. They requested that a copy of the final permit be forwarded to them.

25. 303(d) Listed Segments and TMDL Development:

The facility discharges directly to Callahan Creek within a stream segment (VAS-P17R) that is currently listed on Part I of the 1998 303(d) Total Maximum Daily Load Priority List because of non-attainment of the *Aquatic Life Use*. This assessment was based on data collected at an ambient biological monitoring station, located on Callahan Creek, near its confluence with the Powell River. Partial support of the Aquatic Life Use is considered a violation of the general standard (9 VAC 25-260-10) which states "All state waters, including wetlands, are designated for the following uses, e.g., swimming and boating; the *propagation and growth of a balanced, indigenous population of aquatic life, including game fish, which might reasonably be expected to inhabit them*; wildlife; and the production of edible and marketable natural resources, e.g., fish and shellfish".

In 2005 the Department of Mines, Minerals and Energy and Department of Environmental Quality developed a Fecal Bacteria and General Standard Total Daily Maximum Load for Callahan Creek. The report identified E. Coli, Sediment and Total Dissolved Solids as the principal pollutants contributing to the impairment. On June 22, 2006, the Environmental Protection Agency approved the TMDL for the Callahan Creek watershed. This TMDL report included a total suspended solids waste load allocation of 5.39 Mg/yr for the Andover Yard discharge, which was based upon the existing effluent limitations and anticipated flow from the facility.

Given that the facility continues to meet the effluent limitation for their discharges, and the nature of the discharge

is unchanged since development of the TMDL, the Department considers the facility to be in compliance with the TMDL, and is not contributing to any continued impairment.

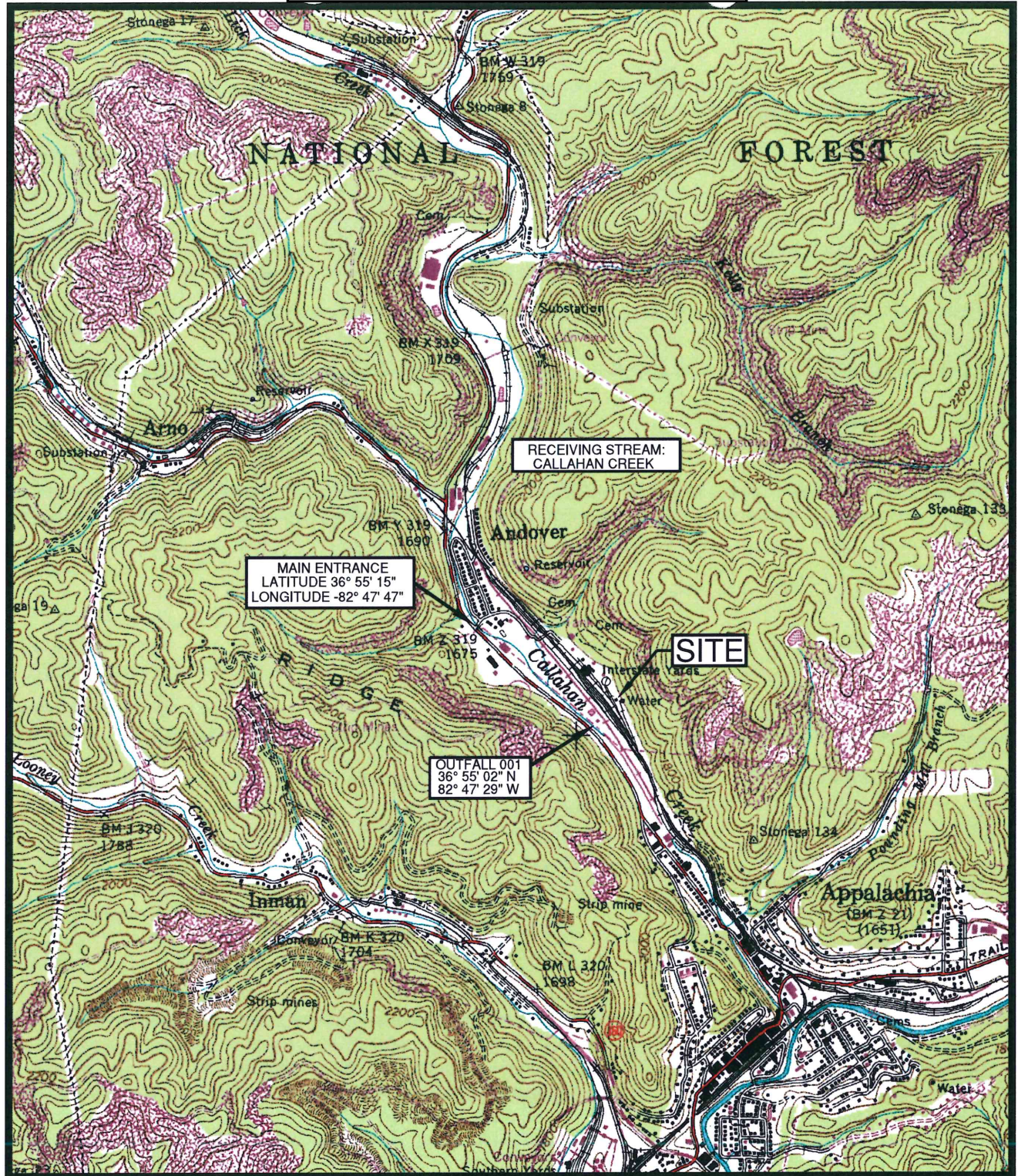
26. Stormwater Discharges Associated with Industrial Activity:

Because the SIC Code for the facility is 4013, the facility is included under the categories of stormwater associated with industrial activity as defined by the state and federal regulations (40 CFR 122.26 and 9 VAC 25-31-10) which establish requirements for discharges of stormwater runoff. Therefore, stormwater management conditions are proposed in the permit. These stormwater management requirements are based upon the Department's standard storm water requirements as defined by 9 VAC 25-151-10, and include the sector specific requirement of 9 VAC 25-151-230 as they apply to rail transportation facilities.

The Part I.A effluent limitations and benchmark monitoring apply to outfall 001. Although a previous permits had included outfalls 003 and 004 as storm water discharge locations, these outfall locations were deleted from the Part I.A of previous permits. The operations at the facility have changed significantly since the original permit issuance, and all regulated industrial activity is conducted within the watershed of Outfall 001. Outfall 002 was deleted during the previous permit term in 2015 since the stormwater from that watershed is now directed to Outfall 001. As such, references to Outfall 002 have been removed from this draft permit.

27. Whole Effluent Toxicity Program:

The VPDES permit for the Andover facility includes an acute Whole Effluent Toxicity (WET) limitation which became effective on April 1, 1996. During the current permit term, the facility has conducted annual acute whole effluent toxicity tests in order to measure their compliance with the WET limit established in Part I.A of the permit. A review of the results of this testing indicates that the facility has consistently achieved compliance with the limit, and has successfully reduced the potential toxicity of the discharge. The staff believes that the proposed frequency is sufficient to measure the facility's compliance with the limit given the consistent quality of the discharge exhibited during the last permit term.



PORTION OF USGS 7.5'  
APPALACHIA, VA. QUADRANGLE



**NORFOLK SOUTHERN RAILWAY COMPANY**  
**ANDOVER YARD**

2,000' 0 2,000'

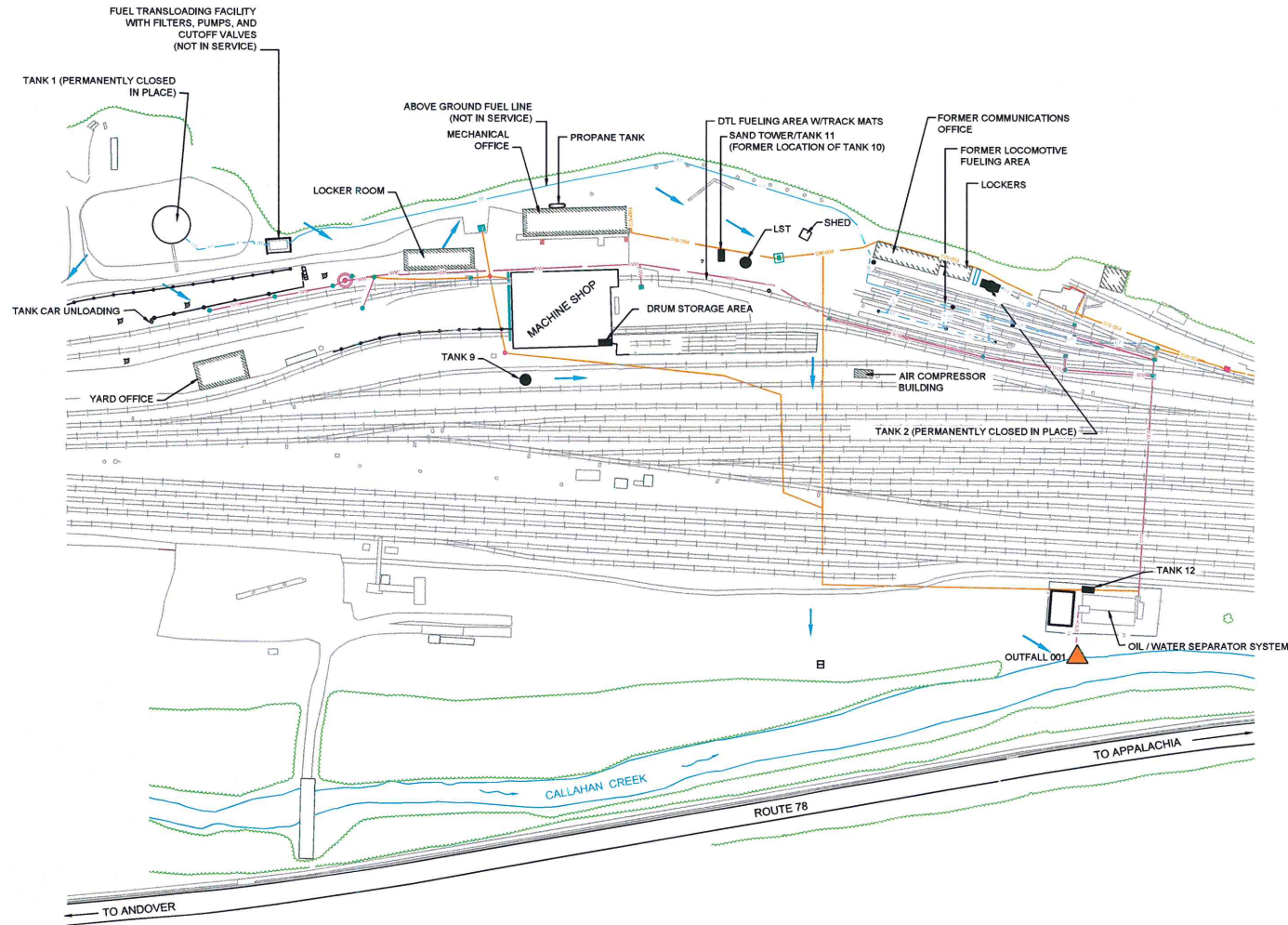
SCALE 1:24,000  
VICINITY MAP

FIGURE 1

11/02/2015  
Bluefield, Virginia



# VA0022012 Fact Sheet Attachment B



DESIGNED: MN  
 DRAWN: TA  
 CHECKED: MN  
 DATE: 06/02/2015  
 SCALE: 1"=200'  
 FILE NO.: ANDOVER  
 PROJECT NO.: NS1789102  
 OFFICE LOC.: BLUEFIELD, VA



NORFOLK SOUTHERN RAILWAY COMPANY  
 ANDOVER YARD  
 ANDOVER, VIRGINIA  
 FACILITY LAYOUT AND  
 DRAINAGE PLAN

Figure

2